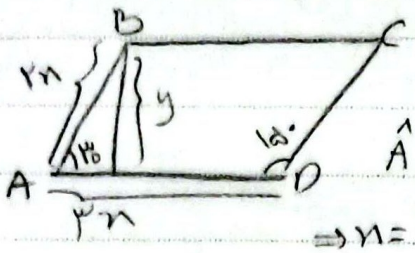
۲۶

دبیرستان صادقی زاده - پاسخ‌نامه دفتر A

سوال (۱)




$۳xy = ۵۴ \Rightarrow xy = ۱۸$

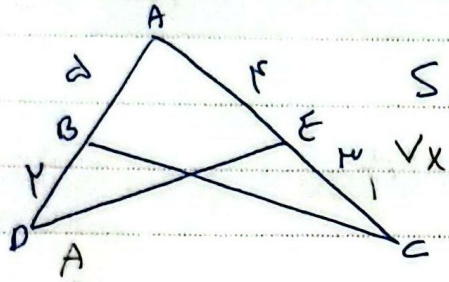
$\hat{A} = ۳۰ \rightarrow y = \frac{x۲}{۲} = x \Rightarrow x^۲ = ۱۸$

$\Rightarrow x = ۳\sqrt{۲}$,

$AB = ۶\sqrt{۲}$, $AD = ۹\sqrt{۲}$

محیط: $= ۶\sqrt{۲}(۵) = ۱۲\sqrt{۲} + ۱۸\sqrt{۲}$ $۳۰\sqrt{۲}$

سوال (۲)

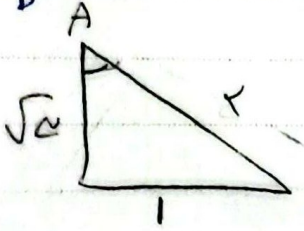



$S_{ABC} - S_{ADE} = ۱۷/۵ \sin A$

$\frac{۱}{۲} \times ۷ \times ۵ \times \frac{۱}{۲} \times \sin A - \frac{۱}{۲} \times ۷ \times ۴ \times \frac{۱}{۲} = \frac{۷}{۴}$

$۱۷/۵ \sin A - ۱۴ \sin A = \frac{۷}{۴}$

$\frac{۷}{۲} \sin A = \frac{۷}{۴} \rightarrow \sin A = \frac{۱}{۲}$




$\tan A = \frac{\sqrt{۳}}{۳}$

سوال (۳)

$\frac{|\sin\alpha|}{\cos\alpha} = \frac{-\sin\alpha}{\cos\alpha} \Rightarrow \sin\alpha < ۰$ (علامت +)

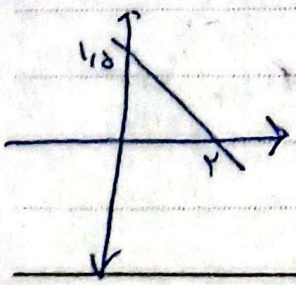
$\frac{\frac{۱}{|\cos\alpha|}}{\sqrt{\cos^۲\alpha}} - \frac{\sin\alpha}{\cos\alpha} = \frac{۱}{|\cos\alpha|} + \frac{\sin\alpha}{|\cos\alpha|} \rightarrow -\frac{\sin\alpha}{\cos\alpha} = \frac{\sin\alpha}{|\cos\alpha|}$

$\rightarrow \cos\alpha < ۰$

در ناحیه ۳

سوال (۴)

$\tan(\frac{۳\pi}{۲} - \alpha) = \cot\alpha$




$y = ax + b \xrightarrow{(۲,۰)} y = ۲a + ۱/۵ \rightarrow a = -\frac{۳}{۴}$

$\rightarrow \tan\alpha = -\frac{۳}{۴} \Rightarrow \cot\alpha = -\frac{۴}{۳}$

Arman

Subject:
Year Month Day page: ( )

سوال ۵)

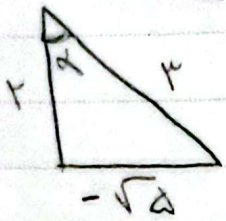
$$\frac{3\cos(348^\circ) - 2\sin(158^\circ)}{\sin(202^\circ) - \cos(492^\circ)} = \frac{3\cos\left(\frac{3\pi}{2} - 22^\circ\right) - 2\sin(\pi - 22^\circ)}{\sin(\pi + 22^\circ) - \cos\left(\frac{3\pi}{2} + 22^\circ\right)}$$

$$= \frac{-3\sin(22^\circ) - 2\sin(22^\circ)}{-\sin(22^\circ) - \sin(22^\circ)} = \frac{-5\sin(22^\circ)}{-2\sin(22^\circ)} = 2,5$$

سوال ۶)

$$\frac{\sin\left(\frac{\pi}{2} + \alpha\right) - \sin(\alpha - \pi)}{|\tan^2\alpha - 1|} = \frac{\cos\alpha + \sin\alpha}{\frac{1}{4}}$$

$\frac{5}{4}$

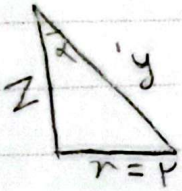



$$= \frac{\frac{2}{3} - \frac{\sqrt{5}}{3}}{\frac{1}{4}} = \frac{\frac{2-\sqrt{5}}{3}}{\frac{1}{4}} = \frac{2-\sqrt{5}}{3} \times 4$$

$$= \frac{8 - 4\sqrt{5}}{3}$$

سوال ۷)

$$\sin\alpha = 2\cos\alpha \rightarrow \frac{x}{y} = \frac{2z}{y} \Rightarrow x = 2z$$




$$\Rightarrow y^2 = z^2 + 4z^2 \Rightarrow y = \sqrt{5}z$$

$$\cos\alpha = -\frac{z}{\sqrt{5}z} = -\frac{\sqrt{5}}{5}$$

سوال ۸)

$$\tan 150^\circ = \sqrt{3} \qquad \frac{-2m}{m^2 - 1} = \sqrt{3} \Rightarrow \sqrt{3}m^2 - \sqrt{3} = -2m$$

$$\rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0 \rightarrow m^2 + 2m - 3 = 0 \quad (m+3)(m-1) = 0$$

$$\Rightarrow m \begin{cases} \rightarrow \frac{-3}{\sqrt{3}} = -\sqrt{3} \\ \hookrightarrow \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3} \end{cases} \quad \left|\frac{\sqrt{3}}{3} + \sqrt{3}\right| = \frac{\sqrt{3} + 3\sqrt{3}}{3} = \frac{4\sqrt{3}}{3}$$

Arman

$-\frac{\pi}{8} < x < \frac{\pi}{8}$ $\quad \tan\left(\frac{\pi}{8} - x\right) = \frac{1-m}{2+m}$ (سوال ۹)

$x-1$ $\quad -\frac{\pi}{8} < -x < \frac{\pi}{8}$ $\xrightarrow{+\frac{\pi}{8}}$ $\quad 0 < -x + \frac{\pi}{8} < \frac{\pi}{2}$ (5)

$\frac{1-m}{2+m} > 0$ $\quad$ $-2$ $\quad$ $1$ $\quad$ $\Rightarrow (-2, 1)$

$- \quad + \quad -$

$\tan(300)\cos(210) + \tan(\cancel{240}) \sin(\cancel{150})$ (سوال ۱۰)

$120$ $\quad$ $120$

$-\sqrt{3} \times -\frac{\sqrt{3}}{2} = +\frac{3}{2} + \left(-\frac{3}{2}\right) = 0$

$\hookrightarrow \frac{180}{2} \quad \frac{360}{4} \quad 80$

$\frac{120}{120}$ (5)

$\tan(120) \times \sin(120) = \sqrt{3} \times \frac{\sqrt{3}}{2} = -\frac{3}{2}$